Paper No. 33

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte MARTIN HEINZ

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Appeal No. 2003-0417
Application 09/080,207

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HEARD: May 07, 2003

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Before ABRAMS, MCQUADE and NASE, *Administrative Patent Judges*.

MCQUADE, *Administrative Patent Judge*.

Martin Heinz appeals from the final rejection of claims 5 through 7, 15 through 18 and 23 through 28, all of the claims pending in the application.

THE INVENTION

The invention relates to "a side impact protection device for an occupant of a vehicle" (specification, page 1).

Representative claim 23 reads as follows:

23. A side impact protection device for a passenger of a vehicle, comprising:

a housing, fastened in a side door of the vehicle,

a gas generator held in the housing,

an air bag which can be inflated by the gas generator, and

a partition, providing a barrier effect for a gas flow emerging from the gas generator, provided within the air bag, said partition including a main flow-through opening through which gas can flow,

wherein the gas generator, connected with the air bag, extends along a longitudinal axis of the gas generator, and

wherein a lower boundary edge of the air bag, in an unfolded mounted position, extends at an angle, which is not equal to zero, with respect to the longitudinal axis of the gas generator so that, during inflation, the air bag is rotatable through the angle in relation to the longitudinal axis into an inflated operating position providing ideal protection for the passenger.

THE PRIOR ART

The references relied on by the examiner to support the final rejection are:

Wipasuramonton et al. (Wipasuramonton)	5,615,909	Apr. 01, 1997
Heinz et al., German Patent Document (Heinz)[1]	4,430,412	Oct. 12, 1995

[1] An English language translation of this reference, prepared on behalf of the United States Patent and Trademark Office, is appended hereto.

THE REJECTION

Claims 5 through 7, 15 through 18 and 23 through 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Heinz in view of Wipasuramonton.

Attention is directed to the appellant's brief (Paper No. 27) and to the examiner's final rejection and answer (Paper Nos. 19 and 28) for the respective positions of the appellant and the examiner regarding the merits of the rejection.[2]

DISCUSSION

Heinz, the examiner's primary reference, discloses a side impact protection device 9 mounted within a vehicle door 8. The device comprises an inflatable air bag 16, a filling device 15 in the form of a gas generator 17, and a fill opening 21 in the air bag communicating with the gas generator. The air bag includes two chambers 22 and 23 partially separated by rebound straps 20 arranged to control the inflation of the chambers in accordance with the sequence in which a passenger's body typically will hit the door in reaction to a side impact, i.e., the chamber 22 facing the passenger's pelvis and chest area will inflate before the chamber 23 facing the passenger's head area. In this way,

[2] Appended to the brief is an English language translation of the Heinz reference prepared by the appellant.

the air bag effectively protects the passenger prior to full inflation.

As conceded by the examiner (see page 2 in the final rejection), the Heinz air bag does not respond to the limitations in independent claim 23, and the corresponding limitations in independent claim 26, calling for the lower boundary edge of the air bag, in an unfolded mounted position, to extend at an angle not equal to zero with respect to the longitudinal axis of the gas generator so that during inflation the air bag is rotatable through the angle in relation to the longitudinal axis into an inflated operating position providing ideal protection for the passenger. As disclosed in the underlying specification and set forth in claim 26, the rotation stems from torque generated by gas flow against the partition in the air bag. Setting the lower boundary edge of the air bag in an unfolded mounted position at an angle with respect to the longitudinal axis of the gas generator compensates for the rotation to bring the air bag into the ideal inflated operating position.

Wipasuramonton discloses a side impact protection device 80 mounted on the upper end of a vehicle seatback 22 reclined at an angle of about 25° from the vertical. The device comprises a housing 82, an inflator 84 and an air bag 90. The air bag, which is configured to mirror and protect the neck and head of a

passenger, includes an elongate neck portion 130 and a body portion 140 extending therefrom at an angle of from about 30° to 70°. When inflated, the neck portion extends forward at an angle of about 65° above the horizontal and at an angle of about 3° outward from the front-to-back axis of the vehicle. During inflation, the air bag temporarily deploys in a curvilinear rainbow pattern due to its configuration and the manner in which it is folded within the housing (see Figure 10, and column 6, line 57, through column 7, line 55).

In proposing to combine Heinz and Wipasuramonton to reject claims 23 and 26, the examiner concludes that it would have been obvious to one of ordinary skill in the art

> to modify Heinz to mount the air bag at different angles to account for various forces and moments on the air bag when being inflated, as taught by Wipasuramonton et al., in order to have the air bag "lie adjacent to the head and neck of an upright seated occupant" (Wipasuramonton et al., col. 8, line 3) when inflated, and thus serve its intended purpose of protecting the occupant [final rejection, page 3].

Neither Heinz nor Wipasuramonton, however, provides any indication that the air bag disclosed therein will fail to assume an ideal protective position in its inflated operating condition. While recognizing that air bag 90 will inflate in a curvilinear manner due to its configuration and manner of folding, Wipasuramonton characterizes the change in inflation direction as

temporary, and shows no concern that any resulting, and presumably temporary, rotation of the air bag will be deleterious. Indeed, Wipasuramonton does not even mention such rotation. Thus, the rationale advanced by the examiner to justify the proposed modification of Heinz in view of Wipasuramonton finds no support in the fair teachings of these references, and appears instead to stem from impermissible hindsight. Moreover, given the differences in their construction, it would be unduly speculative to associate a perceived rotation problem in the air bag disclosed by Wipasuramonton with the air bag disclosed by Heinz.

Thus, the combined teachings of Heinz and Wipasuramonton do not justify the examiner's conclusion that the differences between the subject matter recited in claims 23 and 26 and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. Therefore, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of independent claims 23 and 26, and dependent claims 5 through 7, 15 through 18, 24, 25, 27 and 28, as being unpatentable over Heinz in view of Wipasuramonton.

SUMMARY

The decision of the examiner to reject claims 5 through 7, 15 through 18 and 23 through 28 is reversed.

REVERSED

Neal E. Abrams Administrative Patent Judge	)
John P. McQuade Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
Jeffrey V. Nase Administrative Patent Judge	)

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